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09/980,354	11/29/2001	Yvon Legallais	PF990032	1341

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EXAMINER	
PATEL, ASHOKKUMAR B	
ART UNIT	**PAPER NUMBER**
2154	

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/980,354	LEGALLAIS ET AL.	
	Examiner	Art Unit	
	Ashok B. Patel	2154	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-14 are presented for examination.

Response to Arguments

2. Applicant's arguments filed April 27, 2005 have been fully considered but they are not persuasive for the following reasons:

Rejection of claims 1-4, 7-10 and 12-14 under 35 USC § 102(b):

Applicant's argument:

"Actually, the cited paragraph concerns the problem of building a mapping table between station id and LAN id, not routing table data. This paragraph is not at all concerned with building of a routing table."

"Actually, page 1668, col. 2 discusses an algorithm to determine a LAN id, not a method to build a routing table, and page 1668, col. 1 concerns the delay table used before the step of computing the routing table. Applicants submit that the teaching in the cited portions is not related to routing table data."

"Tai does not appear to describe any operation that could be seen as a concatenation of routing table data. The use of term concatenation makes clear that the received routing table data are just added to the table."

"The cited paragraph 3.1 does not concern the building of routing table, and furthermore, it does not describe any iterative process. It describes the computation of LAN id, which is done in one step, and indicates that this step is conducted periodically to account for changes in the network."

Examiner's response:

As shown in Fig. 1 of Tai on page 1667 is the forwarding database of a specific port is a brouter and which is implemented at each port of the brouter.

As Tai goes on explaining on page 1667, the construction of the forwarding database as being "More specifically, at brouter *b*. say, the tables $Delay_b$ *(i)* and $Output_b$ *(i)* are kept, which store the delay and the outgoing port on the shortest path to LAN *i.* These tables are computed as follow: (8):

$$Delay_b(i) \leftarrow min/b' \{ Delay_b(l') + l(b, b')$$

where *b'* is any neighbor brouter of *b*, i.e.. brouter *b'* is connected to *b* by the same LAN or communication link, and *l(b,b') is the delay* of the LAN if they are local brouters or the delay of the communication link if they are remote brouters. The delay metric here can be a combination of mean transmission delay and queue length or simply a LAN "hop" count. Thus, Tai is building a forwarding database (routing table) by using the Bellman-Ford algorithm. And as disclosed on page 1666 of Tai, "the forwarding database at each port is constructed by exchanging the delay tables periodically among the brouters attached to the same LAN.

Rejection of claims 5 and 6 under 35 USC 103(a) as being unpatentable over Tai and further in view of Garcia (US Published Application 20020049561)

Applican'ts argument:

"Applicants note that Garcia address the routing problem in an adhoc network that is completely different type of network. Also, applicants submit that Garcia fails to cure the

defect of Tai as applied to claim 1, and as such, claims 5 and 6, which depend from claim 1, are patentably distinguishable over the combination of Tai and Garcia."

Examiner's response:

As stated in the previous Office Action, "Garcia teaches that the routing table data transmitted or broadcast by a given portal contains the entire routing table (Abstract lines 6-.14)." Matter of fact, Garcia also suggest "Bellman-Ford algorithm to calculate the shortest path as does Tai. This problem solving methodology of Garcia is of a paramount importance for curing the deficiency of Tai and not the type of network.

Rejection of claim 11 under 35 USC 103(a) as being unpatentable over Tai and further in view of Oechsle (US Pat. No. 5570466)

Applicant's argument:

"Oechsle is cited as teaching selecting the path to a given remote bus as a function of the bandwidth of portals on the path. Applicants submit that Oechsle fails to cure the defect of Tai as applied to claim 1, and as such, claim 1 1 is ' patentably distinguishable over the combination of Tai and Oechsle."

Examiner's response:

Oechsle teaches selecting the path to a given remote bus as a function of the bandwidth of portals on said path (col. 4, lines 45-55), and therefore, the one of ordinary skill in this art will combine the teaching of Tai and Oechsle because they both deal with updating bridge routing tables to select paths to a remote network. Furthermore, the teaching of Oechsle to modify the path selection taught by Tai to select a path as a

function of portal bandwidth would allow picking the most capable path for transmission thus maximizing efficiency (See Oechsle col. 4, lines 53-55).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than cane year prior to the date of application for patent in the United States.

4. Claims 1-4, 7-10, and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Tai, T.-Y.; Gerla, M., LAN interconnection: a transparent, shortest-path approach IEEE International Conference on Communications, 23-26 June 1991, Pages: 1666 - 1670 vol.3 (hereinafter Tai).

5. As per claim 1, Tai teaches a method for determining a routing table in a communication network comprising buses connected by bridges (page 1667 Fig. 3: brouters connect to LANS), each bridge comprising two companion portals (Fig. 2), a first portal being connected to a first bus and a second portal being connected to a second bus, each bus being identified by a unique bus identifier (page 1668: determination of LAN ID), each portal being identified by a unique portal identifier (page 1668, col. 2, first paragraph), said method being characterized in that it comprises the steps of:

(a) transmitting, by a given portal, routing table data stored by said given portal to a companion portal associated with said given portal and receiving, by said given portal, routing table data from the companion portal; and (b) concatenating said routing table

data received in step (a) with the contents of the routing table data stored by said given portal (page 1669, col. 1, third paragraph: new station Ids added to routing table based on data transmitted between ports of brouters);

(c) broadcasting said routing table data stored by said given portal on a local bus associated with the given portal (page 1668, col. 2, exchanging routing data among brouters on the same LAN; page 1668, col. 1: delay table information exchanged among port data bases);

(d) receiving routing table data broadcast by other portals on the local bus and concatenating said received routing table data broadcast by other portals with contents of the routing table data stored by said given portal (page 1668: col. 1, shortest path added to routing database);

(e) repeating the above steps until routing data concerning all buses in the network has been received by said given portal(page 1668: col. 2, paragraph 3.1. process executed until all buses are identified and rerun when LAN changes).

6. As per claim 2, Tai teaches the method according to claim 1, wherein the routing table data transmitted by said given portal during the first iteration of the step (a) comprises an identifier of the given portal and an identifier of the given portal's local bus; the routing table data received by said given portal from the companion portal during the first iteration of step (a) comprises an identifier of said companion portal and an identifier of the companion portal's local bus (page 1668, col. 2: LAN ID comprised of port attached to LAN; page 1669: station IDs transmitted between ports).

7. As per claim 3, Tai teaches the method according to claim 2, wherein said routing table data transmitted, respectively received, by said given portal comprises the given portal's identifier, respectively the identifier of the given portal's companion portal (page 1668: LAN I D exchanged is comprised of portal identifier for the given LAN and brouter ID).

8. As per claim 4, Tai teaches the method according to claim 2, wherein the routing table of a portal comprises the identifiers of remote buses (page 1669: bus identifiers), and for each remote bus, the identifier of the portal local to the remote bus having initially transmitted the remote bus identifier (page 1669: LAN identifier includes identification of Port attached to LAN), the depth of the remote bus compared to the bus local to the given portal (page 1667: delay information includes number of LAN hops), and the identifier of the local portal having broadcast the routing table data comprising the remote bus identifier on the local bus (page 1667, col. 2: delay table includes identification of port).

9. As per claim 7, Tai teaches the method according to claim 1, wherein the routing table data transmitted or broadcast by the given portal comprises only a part of the routing table which was not transmitted or broadcast by said given portal during a previous step (page 1668: changes to LAN broadcast to all other brouters).

10. As per claim 8, Tai teaches the method according to claim 7, wherein the given portal stops iterating the steps (a) to (e) when the given portal did not receive routing data during the previous iteration (page 1669, col. 1, third paragraph: concatenation step only occurs when new routing data is received).

11. As per claim 9, Tai teaches the method according to claim 1, wherein the concatenation steps include selection of a unique path from the bus local to the given portal to any remote bus and the deletion of non-selected paths from the routing table of the given portal (page 1668: col. 1, calculation of database finds path with minimum delay for a given destination bus).

12. As per claim 10, Tai teaches the method according to claim 9, wherein said selected path to a given remote bus is a function of portal identifiers stored in the routing table for said given remote bus; (Page 1668: col. 2, if more than one LAN ID is identified for a brouter, smallest ID is chosen).

13. As per claim 12, Tai teaches the method according to claim 9, wherein said selection is made among the shortest paths to the remote bus, paths of greater length being deleted from the routing table (page 1667, col. 2: delay metric is LAN hop count).

14. As per claim 13, Tai teaches the method according to claim 1, wherein a routing table is simplified for the purpose of routing messages to contain a list of remote bus identifiers and for each remote bus whether the given portal shall forward a message from the bus local to the given portal to its companion portal (Page 1667: Fig. 1). 2

15. As per claim 14, Tai teaches a portal device adapted to be connected to a first communication bus and adapted to be: linked to a companion portal device for connection to a second communication bus, said portal device comprising: (Fig. 2: brouter devices with ports connected to each network): a bus interface for connection to said first communication bus; a switching fabric interface for connection to said companion portal device (page 1666-1667: brouter devices connects ports and forwards

traffic as appropriate); a memory for storing routing table data (page 1667 paragraph 2.1: forwarding database);

means for transmitting routing table data stored in said memory to said companion portal (page 1669, col. 1, third paragraph), for broadcasting routing table data stored in said memory on said first communication bus (page 1668, col. 2; exchanging delay table information over ports on same LAN), for controlling said bus interface and switching fabric interface. to receive or transmit routing table data, and for concatenating received routing table data with data stored in said memory during successive receive and transmit cycles relating to routing table data for remote communication buses.(page 1669: intersecting routing data concerning stations on remote LAN: page 1668 adding new routing information communicated over bus).

Claim Rejections - 35 USC § 103

16. The following is a quotation of ;15 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tai, T.-Y.; Gerla, M., LAN interconnection: a transparent, shortest-path approach IEEE International Conference on Communications, 23-26 June 1991, Pages: 1666 - 1670 vol.3 (hereinafter Tai) further in view of Garcia-Luna-Aceves et al. (US Published Application 2002/0049561, hereinafter Garcia).

18. As per claim 5, Tai fails to explicitly teach the method according claim 1, wherein the routing table data transmitted or broadcast by the given portal contains the entire routing table.

Garcia teaches that the routing table data transmitted or broadcast by a given portal contains the entire routing table (Abstract lines 6-.14). 30.

It would have been obvious to one of ordinary skill in this art at the time the invention was made to combine the teaching of Tai and Garcia because they both with updating a distributed routing table to select paths in a remote network. Furthermore, the teaching of Garcia to transmit the entire path would allow reevaluating the shortest path selection when changes occur to the network (See Garcia paragraph 0078). 31. As per claim 6, Tai teaches the method according to claim 5, wherein the given portal stops iterating the steps (a) to (e) when the routing tables received from the companion portal and local portals contain only data which is redundant with the given portal's own routing table (page 1669, col. 1: brouter concatenates only when it sees new routing data).

19. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tai, T.Y.; Gerla, M., LAN interconnection: a transparent, shortest-path approach IEEE International Conference on Communications, 23-26 June 1991, Pages:1666 - 1670 vol.3 (hereinafter Tai) further in view of Oechsle (US Patent 5,570,466, issued 10/29/1996).

20. As per claim 11, Tai teaches the method according to claim 9, but fails to teach that the selected path selected path to a given remote bus is a function of the bandwidth

of portals on said path. 34. Oechsle teaches selecting the path to a given remote bus as a function of the bandwidth of portals on said selected path (col. 4, lines 45-55).

It would have been obvious to one of ordinary skill in this art at the time the invention was made to combine the teaching of Tai and Oechsle because they both with updating bridge routing tables to select paths to a remote network. Furthermore, the teaching of Oechsle to modify the path selection taught by Tai to select a path as a function of portal bandwidth would allow picking the most capable path for transmission thus maximizing efficiency (See Oechsle col. 4, lines 53-55).

Conclusion

Examiner's note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (571) 272-3972. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abp
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